

CATALOGUE OF THE WHALE-LICE
(CRUSTACEA : AMPHIPODA : CYAMIDAE) IN THE
COLLECTIONS OF THE BRITISH MUSEUM
(NATURAL HISTORY)

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INTRODUCTION

THE collections of the British Museum (Natural History), containing as they do much of the material taken during the *Discovery* Investigations (1925-27) on the biology of the southern whales and much incidentally collected Northern Hemisphere material, represent one of the more significant collections of cyamid material. Numerically this collection is not large but it contains some types and material which has been little studied. Furthermore the group is usually very poorly represented in museum collections.

The discovery of a new genus and species of cyamid (Lincoln & Hurley, 1974) has been one of the benefits resulting from a re-examination of the material in the collections of the Crustacea Section. Since all identifications have now been verified and labelling updated following the nomenclature given in the recent cyamid synopsis of Leung (1967), this is a suitable opportunity to present a published catalogue of holdings for the benefit of other workers. The nomenclature for the whales follows that used by Hershkovitz (1966).

The assistance of Miss J. Ellis in collating the information is gratefully acknowledged.

CYAMUS Latreille, 1796

Cyamus abbreviatus Say, 1818

(1) Type? 1 specimen (dry collection). North America. Leach Collection.

Cyamus balaenopterae Barnard, 1931

(1) Syntypes, 6♂♂, 4♀♀; *Ann. Mag. nat. Hist.* (10) 7: 425-430. Reg. no. 1936: 11:2:3495-3501. Saldanha Bay, South Africa; on *Balaenoptera physalis* (L.) [blue whale according to label] whale no. W 1096. *Discovery* Collection.

(2) 2♂♂, 8♀♀, 1 juv. Reg. no. 1936:11:2:3502-3531. Saldanha Bay, South Africa; on *Balaenoptera musculus* (L.) whale no. W 867. *Discovery* Collection.

(3) 9♂♂, 6♀♀. Reg. no. 1936:11:2:3502-3531. Durban, South Africa; on *Balaenoptera physalis* (L.) whale no. W D19. *Discovery* Collection.

(4) 1♂, 5♀♀ (immature). Reg. no. 1936:11:2:3502-3531. Saldanha Bay, South Africa, 18.8.1926; on *Balaenoptera musculus* (L.) whale no. W 961. *Discovery* Collection.

- (5) 3♂♂, 6♀♀, 1♀ ovig., 1 juv. Reg. no. 1936:11:2:3502-3531. Saldanha Bay, South Africa, 15.8.1926; on *Balaenoptera physalus* (L.) whale no. W 948. *Discovery* Collection.
- (6) 20♂♂, 15♀♀, 10 juvs. Reg. no. 1973:104:45. No locality data, 24.10.1948; on *Balaenoptera physalus* (L.). *Discovery* Collection.

Cyamus boopis Lütken, 1870

- (1) 1♂. Reg. no. 1853:68. Greenland. Collected by Holboll.
- (2) 10♂♂, 10 juvs. Reg. no. 1910:8:9:1-6. Bransfield Straits, South Shetlands; on *Megaptera novaeangliae* (Borowski). Collected by J. A. Mörch.
- (3) 2♂♂, 1♀ (immature). Reg. no. 1911:11:8:23064-066. No locality data. A. M. Norman Collection.
- (4) 3♀♀. Reg. no. 1920:7:5:61-62. Deception Island, South Shetlands, 1914; on *Megaptera novaeangliae* (Borowski). Collected by A. G. Bennett.
- (5) 11♂♂. Reg. no. 1924:7:10:1-5. Olna Firth, Shetland Islands, 19.6.1924; on *Megaptera novaeangliae* (Borowski). Collected by F. V. Morley.
- (6) 3♂♂, 3♀♀ (immature), 2 juvs. Reg. no. 1928:12:1:2966-71. Durban, South Africa, 23.7.1908; on *Megaptera novaeangliae* (Borowski). T. R. R. Stebbing Collection.
- (7) 1♂, 2♀♀ (all immature). Reg. no. 1936:11:2:3542-3581. South Georgia; on *Megaptera novaeangliae* (Borowski) whale no. 355. *Discovery* Collection.
- (8) 6♂♂, 1♀. Reg. no. 1936:11:2:3542-3581. South Georgia; on *Megaptera novaeangliae* (Borowski), whale no. 373, genital region. *Discovery* Collection.
- (9) 2♂♂, 2♀♀, 5 juvs. Reg. no. 1936:11:2:3542-3581. South Georgia; on *Megaptera novaeangliae* (Borowski), whale no. 387. *Discovery* Collection.
- (10) 3♂♂, 3♀♀, 10 juvs. Reg. no. 1936:11:2:3542-3581. Deception Island, South Shetlands; on *Megaptera novaeangliae* (Borowski). *Discovery* Collection.
- (11) 6♂♂, 4♀♀, 10 juvs. Reg. no. 1936:11:2:3542-3581. Saldanha Bay, South Africa, 29.9.1926; on *Megaptera novaeangliae* (Borowski), whale no. 1125. *Discovery* Collection.
- (12) 11♂♂, 1♀. Reg. no. 1936:11:2:3542-3581. Durban, South Africa; on *Megaptera novaeangliae* (Borowski), whale no. D3. *Discovery* Collection.
- (13) 2♂♂, 4♀♀. Reg. no. 1936:11:2:3542-3581. Durban, South Africa, on *Physeter catodon* L., whale no. D21. *Discovery* Collection.
- (14) 10♂♂, 7♀♀, 2 juvs. Reg. no. 1936:11:2:3542-3581. Saldanha Bay, South Africa, 6.8.1926; on *Megaptera novaeangliae* (Borowski), whale no. 918. *Discovery* Collection.
- (15) 16♂♂, 9♀♀, 10 juvs. Reg. no. 1965:9:8:1-15. Paita, Peru, 05°05' S, 81°10' W, 19.10.1960, on *Megaptera novaeangliae* (Borowski), ♀ 13.3 m, whale no. PA1. Collected by Robert Clarke.
- (16) 2♂♂. Reg. no. 1972:556:2. Varanger Fiord, Norway; on *Megaptera novaeangliae* (Borowski). G. O. Sars Collection.
- (17) 50♂♂, 10♀♀ (immature). Reg. no. 1972:568:60. Off Russell Bay, Bay of Islands, New Zealand, August 1912; on *Megaptera novaeangliae* (Borowski). Terra Nova Collection.

- (18) 150♂♂♀♀. Reg. no. 1972:569:150. Off Russell Bay, Bay of Islands, New Zealand, August 1912; on *Megaptera novaeangliae* (Borowski). Terra Nova Collection.
- (19) 14♂♂, 6♀♀. Reg. no. 1972:577:20. No locality data. No collection data.
- (20) 9♂♂, 6♀♀ (immature), 1 juv. Reg. no. 1972:579:16. St. Vicente. Collected by R. T. Lowe.

Cyamus catodontis Margolis, 1954

- (1) 300♂♂♀♀ (mature and immature). Reg. no. 1965:9:8:16-45. Paita, Peru 05°05' S, 81°10' W, 30.9.1960; on *Physeter catodon* L., ♂ 13.2 m, whale no. Pa870. Collected by R. Clarke.
- (2) 100♂♂♀♀. Reg. no. 1965:9:8:16-45. Pisco, Peru, 13°47' S, 76°15' W, 17.10.1960; on *Physeter catodon* L., ♂ 13.6 m, whale no. Pi59. Collected by R. Clarke.
- (3) 150♂♂♀♀ (mature and immature). Reg. no. 1965:9:8:16-45. Pisco, Peru, 13°47' S, 76°15' W, 17.1.1961; on *Physeter catodon* L., ♂ 15.2 m, whale no. Pi160. Collected by R. Clarke.
- (4) 150♂♂, 150♀♀. Reg. no. 1973:103:300. No locality data; on *Physeter catodon* L., ♂ 54 ft, whale no. 20. *Discovery* Collection, 1951-52.

Cyamus ceti (L., 1758) Lamark, 1801

- (1) 1♂, 1♀. Reg. no. 1911:11:8:23075-75. No locality data; A. M. Norman Collection.
- (2) 3♂♂, 8♀♀. Reg. no. 1928:12:1:2978-2984. Greenland; on *Balaena mysticetus* L. T. R. R. Stebbing Collection.
- (3) 6♂♂, 3♀♀. Reg. no. 1956:10:10:340-343. Arctic Sea, 1893. University College, Dundee Collection (S.S. *Eclipse*).
- (4) 300♂♂, 200♀♀, 50♀♀ (immature), 50 juvs. Reg. no. 1972:556-600. North Europe? No collection data.
- (5) 2♂♂, 4♀♀. Reg. no. 1972:588:6. Murray Firth, Scotland. Leach Collection.
- (6) 6♂♂, 1♀, 6 juvs. Reg. no. 1972:559:13. No locality data. No collection data.
- (7) 9♂♂, 10♀♀. Reg. no. 1972:567:19. No locality data. No collection data.
- (8) 10♂♂, 10♀♀, 20 juvs. Reg. no. 1972:578:40. Baffin Bay, 20.7.1894. University College, Dundee Collection (S.S. *Eclipse*).
- (9) Reg. no. 604a, b, d, c, dry collection (Leach cab: 31). Britain. Leach Collection.

Cyamus erraticus Roussel de Vauzème, 1834

- (1) 5♂♂, 4♀♀ (immature). Reg. no. 1912:10:2:1-7. 6 miles N.E. of Flugga, Shetland. Collected by Lovett.
- (2) 4♂♂, 1♀. Reg. no. 1928:12:1:2966-71. Durban, South Africa, 23.7.1908; on *Eubalaena*. T. R. R. Stebbing Collection.
- (3) 8♂♂, 10♀♀. Reg. no. 1936:11:2:3532-3541. Saldanha Bay, South Africa, 23.7.1908; on *Eubalaena glacialis australis* Desmoulins, whale no. 1020. *Discovery* Collection.

- (4) 2♂♂, 5♀♀, 1♀ (immature). Reg. no. 1972:560:8. Rockall, North Atlantic, 1.7.1914; on flipper of *Eubalaena glacialis glacialis* Müller. No collection data.
- (5) 14♂♂, 3♀♀. Reg. no. 1972:570:17. No locality data. Albany Museum, Grahamstown Collection.
- (6) 1♂. Reg. no. 1972:575:1. No locality data; on *Eubalaena glacialis glacialis* Müller. Collected by Professor Goldberg.

Cyamus gracilis (Roussel de Vauzème, 1834)

- (1) 1♂. Reg. no. 1907:12:2:218. Pacific Ocean. University College, Dundee Collection.
- (2) 1♀, 1♀ (immature). Reg. no. 1911:11:8:23069-70. No locality data. A. M. Norman Collection.
- (3) 8♂♂ (immature), 4♀♀. Reg. no. 1928:12:1:2972-74. False Bay, Cape, South Africa. T. R. R. Stebbing Collection.
- (4) 1♂, 6 juvs. Reg. no. 1936:11:2:3582-3584. South Georgia; on *Eubalaena glacialis australis* Desmoulins, whale no. 503. *Discovery* Collection.
- (5) Reg. no. 605a (dry collection), Leach cab: 31. British Sea. Leach Collection.

Cyamus monodontis Lütken, 1873

- (1) 1 specimen (slide collection). No locality data; on *Monodon monoceros* L. No collection data.
- (2) 3♀♀, 10 juvs. Reg. no. 1928:12:1:2975-77. No locality data; on *Monodon monoceros* L. T. R. R. Stebbing Collection.
- (3) 2♂♂, 2♀♀. Reg. no. 1911:11:8:23071-74. No locality data; on *Monodon monoceros* L. A. M. Norman Collection.
- (4) 5♂♂, 5♀♀, 10 juvs. Reg. no. 1956:10:10:344-346. Davis Straits, Greenland, Canada; on *Monodon monoceros* L. University College, Dundee Collection.
- (5) 1♀. Reg. no. 1972:561:1. No locality data. University College, Dundee Collection.
- (6) 1♀. Reg. no. 1972:562:1. No locality data; on *Monodon monoceros* L. Collected by Nuttall.
- (7) 100♂♂♀♀. Reg. no. 1972:563:100. Upernavik, Greenland, 1892. University College, Dundee Collection.

Cyamus nodosus Lütken, 1860

- (1) 4♂♂, 2♀♀ (immature), 14 juvs. Reg. no. 1907:12:2:212-217. Davis Straits, Greenland, Canada. University College, Dundee Collection.
- (2) 200♂♂♀♀. Reg. no. 1879:26. Omenak, Greenland; on *Monodon monoceros* L. Collected by E. Whymper.
- (3) 2♂♂, 1♀, 1 juv. Reg. no. 1911:11:8:23031-33. Omenak, Greenland. A. M. Norman Collection.
- (4) 2♂♂, 4♀♀, 8♀♀ (immature). Reg. no. 1972:564:12. No locality data; on *Monodon monoceros* L. University College, Dundee Collection.

- (5) 1♀. Reg. no. 1972:565:1. No locality data ; on *Monodon monoceros* L. Collected by Nuttall.
- (6) 5♂♂, 3♀♀ (immature), 9 juvs. Reg. no. 1972:566:17. No locality data. University College, Dundee Collection.
- (7) 3 specimens (slide collection). No locality data ; on *Monodon monoceros* L. No collection data.

Cyamus ovalis Roussel de Vauzème, 1834

- (1) 30♂♂♀♀, attached to section of skin. Reg. no. 1911:10:16:1-10. South Georgia, 2.2.1911 ; on *Eubalaena glacialis* Müller. Collected by G. Cruikshank.
- (2) 150♂♂♀♀, attached to section of skin from lower maxilla. Reg. no. 1911:10:16:11-20. South Georgia, 15.3.1911 ; on *Eubalaena glacialis* Müller. Collected by G. Cruikshank.
- (3) 10♂♂, 20 juvs. Reg. no. 1911:11:8:23034-53. Iceland ; on *Eubalaena glacialis glacialis* Müller. A. M. Norman Collection.
- (4) 2♂♂, 3♀♀, 30 juvs. Reg. no. 1911:11:8:23054-23063. Pacific Ocean ; on *Eubalaena glacialis japonica* Lacépède. A. M. Norman Collection.
- (5) 150♂♂♀♀, attached to section of skin. Reg. no. 1912:6:15:1-20. South Georgia ; on *Eubalaena glacialis australis* Desmoulins. Collected by G. Cruikshank.
- (6) 6♂♂, 8♀♀, 30 juvs. Reg. no. 1912:10:2:8-27. 6 miles N.E. of Flugga, Shetland. Collected by Lovett.
- (7) 300♂♂♀♀, attached to three separate sections of skin. Reg. no. 1920:10:21:23-42. Stromness Whaling Station, South Georgia ; on right whale (upper jaw). Collected by J. Rasmussen and Alex Lange.
- (8) 7♂♂, 7♀♀, 6 juvs. Reg. no. 1936:11:2:3483-3494. South Georgia ; on *Eubalaena glacialis australis* Desmoulins, whale no. 503. *Discovery* Collection.
- (9) 1♂, 2♀♀, 1 juv. Reg. no. 1936:11:2:3483-3494. Saldanha Bay, South Africa, 26.8.1926 ; on *Eubalaena glacialis australis* Desmoulins, whale no. 1020. *Discovery* Collection.
- (10) 10♂♂, 30♀♀, 100 juvs. Reg. no. 1972:571:140. Port Elizabeth. Collected by I. L. Drège.
- (11) 3♂♂, 20 juvs. Reg. no. 1972:572:23. Faerøerne Island, North Atlantic, 62° N, 07° W, June 1898 ; on *Eubalaena glacialis glacialis* Müller, ♀. No collection data.
- (12) 2♂♂, 2♀♀. Reg. no. 1972:573:4. No locality data ; on *Eubalaena glacialis japonica* Lacépède. Collected by W. N. Lockington.
- (13) 7♂♂, 10♀♀, 30 juvs. Reg. no. 1972:574:47. South Georgia ; from 'bonnet' of right whale. Collected by P. Stammwitz.
- (14) 3♂♂, 9♀♀, 10 juvs. Reg. no. 1972:576:22. No locality data ; on *Eubalaena glacialis glacialis* Müller. Collected by Goldberg.
- (15) 20 specimens (dry collection). Port Jackson and South Africa. Leach Collection.

Cyamus pacificus Lütken, 1873

- (1) 5♂♂. Reg. no. 1877:3. No locality data; on *Megaptera novaeangliae* (Borowski). Collected by W. N. Lockington.

Cyamus scammoni Dall, 1872

- (1) 3♂♂, 1♀. Reg. no. 1877:3. No locality data; on *Eschrichtius gibbosus* (Erxleben). Collected by W. N. Lockington.
 (2) 30♂♂♀♀, attached to section of skin. Reg. no. 1891:2:10:1-12. Wladiwostock, Victoria Bay, Sea of Japan. Collected by Fridolf Höök.

Cyamus thomsoni Gosse, 1855 see *Platycyamus***ISOCYAMUS** Gervais & Van Beneden, 1859*Isocyamus delphini* (Guérin-Méneville, 1836)

- (1) 2♂♂. Reg. no. 1911:11:2:3067-68. No locality data; on *Globicephala melaena* Traill (pilot whale). A. M. Norman Collection.
 (2) 4♂♂, 5♀♀, 6 juvs. Reg. no. 1936:11:2:3585-3600. 14°45' N, 18°34' W, 27.10.1925; on *Steno bredanensis* Lesson (rough-toothed dolphin), Dolphin A. *Discovery* Collection.
 (3) 1♂, 1♀, 11 juvs. Reg. no. 1936:11:2:3583-3600. 14°45' N, 18°34' W, 27.10.1925; on *Steno bredanensis* Lesson, Dolphin B. *Discovery* Collection.
 (4) 9♂♂♀♀. Reg. no. 1972:547:9. Tonnybwelch Beach, Aberystwyth, Cardiganshire; on stranded porpoise. Collected by P. Miles.

NEOCYAMUS Margolis, 1955*Neocyamus physteris* (Pouchet, 1888)

- (1) 4♀♀. Reg. no. 1965:9:8:46-65. Talcahuano, Chile, 36°45' S, 73°12' W, 23.3.1961, on *Physeter catodon* L., ♀ 10.1 m, whale no. T6. Collected by R. Clarke.
 (2) 1♂, 2♀♀. Reg. no. 1965:9:8:46-65. Paita, Peru, 05°05' S, 81°10' W, 23.6.1959, on *Physeter catodon* L., ♀ 9.6 m, whale no. Pa21. Collected by R. Clarke.
 (3) 1♀. Reg. no. 1965:9:8:46-65. Paita, Peru, 05°05' S, 81°10' W, 23.4.1960, on *Physeter catodon* L., ♂ 13.7 m, whale no. Pa611. Collected by R. Clarke.
 (4) 1♀. Reg. no. 1965:9:8:46-65. Paita, Peru, 05°05' S, 81°10' W, 21.4.1959, on *Physeter catodon* L., ♂ 13.3 m, whale no. Pa111. Collected by R. Clarke.
 (5) 1♂, 10♀♀, 1 juv. Reg. no. 1965:9:8:46-65. Paita, Peru, 05°05' S, 81°10' W, 25.1.1960, on *Physeter catodon* L., ♀ 10.2 m, whale no. 417. Collected by R. Clarke.

PLATYCYAMUS Lütken, 1870*Platycyamus thomsoni* (Gosse, 1855)

- (1) 1♂. Reg. no. 1907:12:2:219. No locality data. University College, Dundee Collection.

- (2) 1♂, 1♀. Reg. no. 1911:11:8:23077-78. No locality data; on *Hyperoodon ampullatus* Forster. A. M. Norman Collection.
- (3) 1♂. Reg. no. 1956:10:10:347. No locality data. Collected by University College, Dundee.
- (4) Holotype. *Ann. Mag. nat. Hist.* (2) 16:30-31. Reg. no. 1856:131 dry coll., Leach cab: 31. Portland Roads S. England; taken from beneath the eye of stranded Bottlenose whale, *Hyperoodon ampullatus* Forster. Leach Collection.

SCUTOCYAMUS Lincoln & Hurley, 1974

Scutocyamus parvus Lincoln & Hurley, 1974

- (1) Holotype ♀, 10♀♀ ovig., 21♀♀ immature, 28♂♂, 37 juvs. Reg. no. 1973:105. Off Peterhead, Aberdeenshire, North Sea, 21.7.1933; on *Lagenorhynchus albirostris* Gray (white-beaked dolphin). Collected by Dr F. C. Fraser.

Summary of hosts of whale-lice in the collections

<i>Host</i>	<i>Whale-lice</i>
Mysticeti (whalebone whales)	
Gray whale, <i>Eschrichtius gibbosus</i> (Erxleben)	<i>Cyamus scammoni</i> Dall
Blue whale, <i>Balaenoptera musculus</i> (L.)	<i>Cyamus balaenopterae</i> Barnard
Fin whale, <i>Balaenoptera physalis</i> (L.)	<i>Cyamus balaenopterae</i> Barnard
Humpback whale, <i>Megaptera novaeangliae</i> (Borowski)	<i>Cyamus boopis</i> Lütken
North Pacific right whale, <i>Eubalaena glacialis japonica</i> Lacépède	<i>Cyamus pacificus</i> Lütken
Southern right whale, <i>Eubalaena glacialis australis</i> Desmoulins	<i>Cyamus ovalis</i> R. de Vauzème
North Atlantic right whale, <i>Eubalaena glacialis glacialis</i> Müller	<i>Cyamus erraticus</i> R. de Vauzème
Greenland right whale, <i>Balaena mysticeti</i> L.	<i>Cyamus gracilis</i> (R. de Vauzème)
Odontoceti (toothed whales)	<i>Cyamus ovalis</i> R. de Vauzème
Sperm whale, <i>Physeter catodon</i> L.	<i>Cyamus erraticus</i> R. de Vauzème
	<i>Cyamus boopis</i> Lütken
	<i>Cyamus catodontis</i> Margolis
	<i>Neocyamus physeteris</i> (Pouchet)
	<i>Platycyamus thompsoni</i> (Gosse)
Bottlenose whale, <i>Hyperoodon ampullatus</i> Forster	
Pilot whale, <i>Globicephala melaena</i> Traill	<i>Isocyamus delphini</i> (Guérin-Méneville)
Narwhal, <i>Monodon monoceros</i> L.	<i>Cyamus monodontis</i> Lütken
	<i>Cyamus nodosus</i> L.
White-beaked dolphin, <i>Lagenorhynchus albirostris</i> Gray	<i>Scutocyamus parvus</i> Lincoln & Hurley
Rough-toothed dolphin, <i>Steno bredanensis</i> Lesson	<i>Isocyamus delphini</i> (Guérin-Méneville)

REFERENCES

- HERSHKOVITZ, P. 1966. Catalog of living whales. *Bull. U.S. natn. Mus.* 246: 1-259.
- LEUNG, Y.-K. 1967. An illustrated key to the species of whale-lice (Amphipoda, Cyamidae), ecto-parasites of Cetacea, with a guide to the literature. *Crustaceana* 12 (3): 279-291.

LINCOLN, R. J. & HURLEY, D. E. 1974. *Scutocyamus parvus*, a new genus and species of whale-louse (Amphipoda : Cyamidae) ectoparasitic on the North Atlantic white-beaked dolphin. *Bull. Br. Mus. nat. Hist. (Zool.)* **26** : 59-64.

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